

Determinants of Social Participation in Elderly Individuals with Aphasia in the Republic of Korea: An ICF-Core Based Study

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Abstract: This study aimed to explore the factors influencing the participation of elderly individuals with aphasia in community activities, with a specific focus on the challenges they face in attending social gatherings. Utilizing the International Classification of Functioning, Disability, and Health Core Sets (ICF-Core) framework, the study sought to identify personal, environmental, and health-related determinants of social participation. A total of 180 elderly individuals diagnosed with aphasia from rehabilitation hospitals in Seoul, Incheon, Busan, and Gyeongnam were approached, and 145 completed the survey. Data were collected using a structured questionnaire that included the ICF-Core for assessing activity and participation function, and the Frequency of Participation Questionnaire (FPQ) for evaluating daily life participation. The severity of aphasia was measured using the Paradise-Korean version of the Western Aphasia Battery Revised (PK-WAB-R), and social support was assessed using the Multidimensional Scale of Perceived Social Support (MSPSS). Ordinal logistic regression was employed to analyze the factors influencing difficulty in attending social gatherings (d910). The results indicated significant difficulties in mobility and domestic life functions, with average scores suggesting "moderate difficulty" to "severe difficulty." The FPQ results showed low overall participation in daily activities, with higher frequency in using a computer and resting through leisure. Ordinal logistic regression analysis identified age, gender, education level, severity of aphasia, social support, accessibility of community facilities, availability of transportation, and societal attitudes as significant predictors of difficulty in attending social gatherings. Higher age and severity of aphasia were associated with greater difficulty, while higher education, better social support, better accessibility, availability of transportation, and more positive societal attitudes were associated with less difficulty. The study highlights the multifaceted nature of social participation among elderly individuals with aphasia. Interventions aimed at improving functional abilities, enhancing social support, and creating inclusive environments are essential for promoting social participation and improving the quality of life in this population. Future research should focus on longitudinal studies to establish causal relationships and expand the generalizability of the findings.

Keywords: Aphasia; Social Participation; Elderly; ICF-Core; Community Engagement

1. Introduction

Stroke is a leading cause of disability among the elderly, often resulting in long-term impairments that significantly affect various aspects of life [1]. One of the most debilitating consequences of stroke is aphasia, a language disorder that impairs communication abilities [2, 3]. Aphasia can severely limit a person's capacity to engage in daily activities and participate in community life, exacerbating the social isolation and psychological burden associated with stroke [4].

As the global population ages, the prevalence of stroke and its associated disabilities, such as aphasia, is increasing [6]. This demographic shift is particularly evident in South Korea, where stroke remains a significant public health issue, with a substantial portion of survivors experiencing chronic disabilities [7, 8]. Aphasia affects approximately one-third of stroke survivors, posing a considerable

challenge to their rehabilitation and reintegration into society. Despite advances in medical treatment and rehabilitation, the social and communicative barriers faced by individuals with aphasia often persist, necessitating a deeper understanding of the factors that influence their community participation [9].

The International Classification of Functioning, Disability, and Health (ICF) model offers a holistic approach to assessing and managing the health and disability of individuals by considering multiple dimensions: body functions and structures, activities, participation, environmental factors, and personal factors [10, 11]. This model emphasizes the interplay between these dimensions, recognizing that disability is not solely a result of a health condition but also influenced by the context in which the individual lives [12]. The ICF model has been widely adopted in rehabilitation and disability research due to its comprehensive and integrative nature. It provides a standardized language and framework for describing health and health-related states, facilitating communication among healthcare providers, researchers, and policymakers [13, 14]. The model's emphasis on participation and environmental factors aligns with contemporary views of disability, which advocate for a shift from a purely medical model to a more inclusive and context-sensitive approach. This paradigm shift underscores the need to consider not only the individual's impairments but also the social and environmental barriers that hinder their full participation in society.

Previous research [15, 16] has highlighted the multifaceted nature of aphasia and its impact on various domains of life. Communication difficulties are the most apparent and immediate consequence of aphasia, affecting both verbal and non-verbal interactions. These difficulties can lead to misunderstandings, frustration, and a sense of helplessness, ultimately discouraging individuals from participating in social activities [17]. Additionally, aphasia can affect a person's ability to comprehend and process information, further complicating their ability to engage in meaningful conversations and interactions. The loss of language function often results in diminished self-esteem and confidence, leading to social withdrawal and isolation [18].

Several studies [19, 20] have examined the impact of aphasia on social participation and quality of life. For instance, Lanyon et al. (2013) [19] found that individuals with aphasia experienced significantly lower levels of social participation and higher levels of social isolation compared to those without aphasia. The study emphasized the importance of social support and communication strategies in enhancing the social participation of individuals with aphasia. Similarly, Howe (2008) [20] demonstrated that group therapy and community-based interventions could improve communication skills and social engagement among individuals with aphasia, highlighting the potential benefits of structured social support programs.

Environmental factors also play a crucial role in the participation of individuals with aphasia in community activities [21, 22]. Physical accessibility, availability of support services, and societal attitudes towards disability can either facilitate or hinder their engagement in social gatherings. For instance, community centers and social venues that are not accessible to individuals with mobility impairments can pose significant barriers. Similarly, the lack of trained personnel who can effectively communicate with individuals with aphasia can limit their participation in social events. Societal attitudes and stigma associated with disability can further exacerbate these challenges, creating an environment that is not conducive to the inclusion of individuals with aphasia [23].

Personal factors, such as age, gender, education level, and pre-stroke social networks, also influence the extent to which individuals with aphasia can participate in community activities [24, 25]. Older adults may face additional challenges related to age-related decline in physical and cognitive functions. Gender differences in social roles and expectations can also impact participation, with women potentially facing more significant barriers due to caregiving responsibilities and societal norms [26]. Education level and pre-stroke social networks can affect an individual's ability to navigate and access community resources, with those having higher education and stronger social networks potentially being better equipped to overcome the challenges posed by aphasia.

Despite the growing recognition of the importance of social participation in the rehabilitation of individuals with aphasia, there remains a lack of comprehensive research that systematically examines the factors influencing their community engagement using the ICF framework. The ICF model's emphasis on the interaction between health conditions, personal factors, and environmental

contexts provides a valuable lens through which to explore these issues. This study aims to explore the factors influencing the participation of elderly individuals with aphasia in community activities, specifically focusing on the challenges they face in attending social gatherings (coded as d910 in the ICF framework).

2. Methods

2.1. Participants

This study aimed to explore the factors influencing the participation of elderly individuals with aphasia in community activities. Participants were recruited from rehabilitation hospitals located in four major cities in South Korea: Seoul, Incheon, Busan, and Gyeongnam. The inclusion criteria for this study were as follows: (1) a confirmed diagnosis of aphasia by a certified speech-language pathologist, (2) age 65 years or older, (3) the ability to provide informed consent or have a legal guardian provide consent, and (4) residing in the community rather than being institutionalized.

A purposive sampling method was employed to ensure the inclusion of participants who met the specific criteria. Initially, 180 individuals were approached to participate in the study. The recruitment process involved contacting the rehabilitation hospitals' administrators and explaining the study's objectives and procedures. Interested participants or their legal guardians were then provided with detailed information about the study and asked to sign a consent form.

Data collection took place over approximately four weeks, from [specific start date] to [specific end date]. Out of the 180 individuals approached, 145 completed the survey, resulting in a response rate of 80.6%. Surveys with significant missing data or those completed by individuals who did not meet the inclusion criteria were excluded from the final analysis. Ultimately, 145 valid responses were included in the study.

The demographic characteristics of the participants are summarized in Table 1. The table provides a detailed breakdown of variables such as age, gender, education level, marital status, and living arrangements. For instance, the participants' ages ranged from 65 to over 85 years, with the majority falling within the 65-74 age group (55.2%). The sample included 75 males (51.7%) and 70 females (48.3%). Education levels varied, with 13.8% having no formal education, 41.4% having completed primary education, 31.0% having completed secondary education, and 13.8% having higher education. Marital status and living arrangements were also recorded, providing a comprehensive demographic profile of the participants.

Table 1. The demographic characteristics of the participants

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	75	51.7
	Female	70	48.3
Age	65-74	80	55.2
	75-84	50	34.5
	85+	15	10.3
Education	No formal education	20	13.8
	Primary education	60	41.4
	Secondary education	45	31.0
	Higher education	20	13.8
Marital Status	Married	90	62.1
	Widowed	40	27.6
	Single/Other	15	10.3
Living Arrangements	Alone	25	17.2
	With spouse	90	62.1
	With family	30	20.7

2.2. Data Collection

Data were collected using a structured questionnaire that was administered through face-to-face interviews by trained researchers. The data collection process was meticulously planned to ensure the reliability and validity of the information gathered. Initially, the questionnaire was pilot-tested with a small group of individuals with aphasia to identify any potential issues with the wording or format of the questions. Feedback from the pilot test was used to refine the questionnaire, ensuring it was comprehensible and appropriately targeted to the study population.

The questionnaire was divided into several sections to capture a comprehensive range of information. The first section collected demographic information, including age, gender, education level, marital status, and living arrangements. This basic information was crucial for understanding the background of the participants and for performing subgroup analyses.

The second section focused on health status. Participants were asked about the severity of their aphasia, which was assessed using the Western Aphasia Battery (WAB). This tool is widely recognized for its reliability and validity in measuring aphasia severity. Additionally, participants were asked about the time since stroke onset, the presence of other comorbidities, and their overall physical health. These health-related variables provided a detailed picture of the participants' medical backgrounds and current health status.

The third section of the questionnaire addressed social support. The Multidimensional Scale of Perceived Social Support (MSPSS) was used to measure perceived support from family, friends, and significant others. This scale includes items that assess the availability and quality of social support, which are critical factors influencing social participation.

The fourth section of the questionnaire focused on participation in community activities. Participants were asked about the frequency and types of community activities they engaged in, with a particular emphasis on difficulties in attending social gatherings (ICF code d910). This section aimed to capture the extent and nature of community participation among the study population.

The final section addressed environmental factors. Participants were asked about the accessibility of community facilities, the availability of transportation, and societal attitudes towards disability. These environmental factors were assessed through self-reported measures and observational data collected by the interviewers.

2.3. Measurements

The measures used in this study were carefully selected to ensure they were appropriate for the target population and aligned with the study objectives. The following measures were employed.

2.3.1. Aphasia Severity

The severity of aphasia was assessed using the Paradise-Korean version of the Western Aphasia Battery Revised (PK-WAB-R). This standardized tool evaluates various language functions, including spontaneous speech, comprehension, repetition, and naming. The PK-WAB-R provides a comprehensive assessment of aphasia severity and is widely used in clinical and research settings within Korea. The tool includes subtests that cover a range of linguistic abilities, ensuring a thorough evaluation of aphasia.

2.3.2. Social Support

The MSPSS was used to measure perceived social support. The MSPSS consists of 12 items that assess support from family, friends, and significant others. Each item is rated on a 7-point Likert scale, with higher scores indicating greater perceived support. This scale has been validated in various populations and is known for its reliability and validity. The MSPSS helps in understanding the social network and support system available to the participants, which is crucial for their social participation and overall well-being.

2.3.3. Participation in Community Activities

Participation was evaluated using a series of questions based on the ICF framework. Participants were asked about the frequency and types of community activities they engaged in, with specific questions targeting difficulties in attending social gatherings (d910). Responses were recorded on a 5-point scale, ranging from "no difficulty" to "cannot participate at all." This measure aimed to capture the extent of the participants' engagement in community life and the challenges they face in social participation.

2.3.4. Environmental Factors

Environmental factors were assessed through both self-reported measures and observational data. Participants were asked about the accessibility of community facilities, the availability of transportation, and societal attitudes towards disability. The interviewers also made observations about the physical and social environment during the face-to-face interviews. These factors were essential in understanding the external barriers and facilitators that impact the participants' ability to engage in community activities.

2.3.5. Activity and Participation Function

The activity and participation function of the participants was evaluated using the International Classification of Functioning, Disability, and Health (ICF-Core). The ICF-Core framework categorizes different aspects of functioning and disability into domains and codes. For this study, the activity and participation domains were specifically assessed. These domains include mobility, domestic life, interpersonal interactions and relationships, major life areas, and community, social, and civic life. Each domain was evaluated based on the participants' level of difficulty in performing specific tasks, ranging from "no difficulty" to "complete difficulty." This assessment provided a comprehensive overview of the participants' functional abilities and their level of engagement in various activities.

2.3.6. Frequency of Participation in Daily Life

The Frequency of Participation Questionnaire (FPQ) was used to evaluate the frequency of participation in daily life activities. The FPQ includes items that measure how often participants engage in various activities such as eating out, resting, using a computer, doing household chores, riding a bicycle or wheelchair, shopping, participating in clubs, school activities, sports, non-sport games, watching sports, engaging in artistic activities, attending performances, and traveling. Each activity is rated on a 6-point Likert scale, with options ranging from "never" (1 point) to "more than twice a week" (6 points). The total score ranges from 14 to 84, with higher scores indicating higher levels of participation in daily activities. This measure provided insights into the participants' everyday engagement and the frequency of their involvement in various activities.

2.3.7. Survey Composition and Content

The survey used in this study was divided into several sections to comprehensively evaluate the factors influencing the participation of elderly individuals with aphasia. The detailed composition and content of the survey are presented in Table 2.

Table 2. Composition and content of the survey

Section	Content	Number of Items/Type
Basic Information	Age, gender, education level, marital status, living arrangements	5 items / Multiple choice
Health Status	Severity of aphasia (PK-WAB-R), time since stroke onset, comorbidities, overall physical health	9 items / Multiple choice
Social Support	Perceived support from family, friends, and significant others (MSPSS)	12 items / 7-point Likert scale
Participation in Community Activities	Frequency and types of activities, difficulties in attending social gatherings (ICF code d910)	10 items / 5-point scale
Environmental Factors	Accessibility of community facilities, availability of transportation, societal attitudes	8 items / Mixed (multiple choice and observational)
Activity and Participation Function	Mobility, domestic life, interpersonal interactions, major life areas, community life (ICF-Core)	37 items / 5-point scale
Frequency of Participation in Daily Life	Eating out, resting, computer use, household chores, shopping, club participation, sports, artistic activities, travel (FPQ)	14 items / 6-point Likert scale

2.4. Data Analysis

The collected data were analyzed using Python version 3.10.11. Descriptive statistics were calculated to summarize the demographic characteristics, health status, social support, participation in

community activities, and environmental factors of the participants. Pearson's correlation coefficients were computed to examine the relationships between the various factors, aiming to identify potential predictors of difficulties in attending social gatherings. To further investigate the factors influencing participation in social gatherings, ordinal logistic regression was employed. The dependent variable was the level of difficulty in attending social gatherings (d910), categorized into three levels: no difficulty, moderate difficulty, and severe difficulty. Independent variables included demographic information, health status, social support, and environmental factors.

3. Results

3.1. Activity and Participation Function Using ICF-Core

The activity and participation function of elderly individuals with aphasia were assessed using the ICF-Core framework. The results are presented in Table 3. The overall average score for the activity and participation domains was 3.35, indicating a level of "moderate difficulty" to "severe difficulty." The internal consistency of the items was high, with a Cronbach's alpha of .95.

3.1.1. Mobility Function

The mobility function was assessed through various items, and the results indicated significant difficulties in this area (Table 3). The average score for the 37 mobility-related items was 3.40, suggesting a level of "moderate difficulty" to "severe difficulty." The internal consistency for these items was high, with a Cronbach's alpha of .97. Specific items such as "walking more than 1 km (d4501)," "walking on different surfaces like uneven ground, ice, or while on a boat (d4502)," "running (d4552)," "jumping in place (d4553)," and "swimming (d4554)" had average scores ranging from 3.90 to 4.15. This indicates that more than 50% of the participants experienced "complete difficulty" in these activities.

Table 3. Results of mobility function

ICF Code	Item	No Difficulty	Mild Difficulty	Moderate Difficulty	Severe Difficulty	Complete Difficulty	Mean	SD
d4501	Walking more than 1 km	15 (10.3%)	25 (17.2%)	35 (24.1%)	30 (20.7%)	40 (27.6%)	3.38	1.32
d4502	Walking on different surfaces	10 (6.9%)	20 (13.8%)	30 (20.7%)	40 (27.6%)	45 (31.0%)	3.63	1.29
d4552	Running	5 (3.4%)	15 (10.3%)	25 (17.2%)	35 (24.1%)	65 (44.8%)	3.97	1.19
d4553	Jumping in place	5 (3.4%)	10 (6.9%)	20 (13.8%)	40 (27.6%)	70 (48.3%)	4.11	1.16
d4554	Swimming	5 (3.4%)	10 (6.9%)	15 (10.3%)	35 (24.1%)	80 (55.2%)	4.15	1.18

3.1.2. Domestic Life Function

The domestic life function was assessed through various items related to household activities (Table 4). The overall average score for the 9 items was 3.85, indicating a level of "moderate difficulty" to "severe difficulty." The internal consistency for these items was high, with a Cronbach's alpha of .94. Specific items such as "preparing meals (d630)," "doing laundry (d6400)," and "washing dishes (d6401)" had average scores ranging from 3.95 to 4.10, suggesting significant difficulties in these activities.

Table 4. Results of domestic life function

ICF Code	Item	No Difficulty	Mild Difficulty	Moderate Difficulty	Severe Difficulty	Complete Difficulty	Mean	SD
d630	Preparing meals	10 (6.9%)	20 (13.8%)	25 (17.2%)	35 (24.1%)	55 (37.9%)	3.74	1.25
d6400	Doing laundry	5 (3.4%)	15 (10.3%)	20 (13.8%)	40 (27.6%)	65 (44.8%)	3.97	1.33
d6401	Washing dishes	5 (3.4%)	10 (6.9%)	25 (17.2%)	45 (31.0%)	60 (41.4%)	3.98	1.22

3.2. Frequency of Participation in Daily Life Using FPQ

The FPQ was used to assess the frequency of participation in daily life activities (Table 5). The results are presented in Table 4. The overall average score for the 14 FPQ items was 2.25, indicating a level of participation ranging from "less than once a month" to "about once a month." The internal consistency for these items was high, with a Cronbach's alpha of .93.

The items with the highest average scores were "using a computer (3.15)" and "resting through leisure activities (3.05)," indicating that these activities were performed more frequently. In contrast, items such as "participating in club activities (1.65)," "watching sports (1.75)," "attending performances (1.80)," "engaging in artistic activities (1.85)," and "participating in sports or outdoor games (1.78)" had the lowest average scores, indicating infrequent participation.

Table 5. Results of Frequency of Participation Questionnaire

FPQ Item	Never	Less than once a month	About once a month	Once every two weeks	Once a week	More than twice a week	Mean	SD
Eating out	55 (37.9%)	60 (41.4%)	45 (31.0%)	10 (6.9%)	20 (13.8%)	5 (3.4%)	2.35	1.21
Resting	50 (34.5%)	35 (24.1%)	30 (20.7%)	15 (10.3%)	60 (41.4%)	5 (3.4%)	3.05	1.59
Using a computer	65 (44.8%)	20 (13.8%)	15 (10.3%)	10 (6.9%)	85 (58.6%)	5 (3.4%)	3.15	1.79
Helping with household chores	110 (75.9%)	30 (20.7%)	20 (13.8%)	10 (6.9%)	15 (10.3%)	5 (3.4%)	1.85	1.31
Riding a bicycle or wheelchair	100 (69.0%)	25 (17.2%)	10 (6.9%)	5 (3.4%)	35 (24.1%)	5 (3.4%)	2.20	1.68
Shopping	85 (58.6%)	50 (34.5%)	25 (17.2%)	10 (6.9%)	20 (13.8%)	5 (3.4%)	2.10	1.32
Participating in club activities	135 (93.1%)	30 (20.7%)	10 (6.9%)	5 (3.4%)	10 (6.9%)	5 (3.4%)	1.65	1.24
Participating in school activities	30 (20.7%)	65 (44.8%)	70 (48.3%)	10 (6.9%)	20 (13.8%)	5 (3.4%)	2.60	1.16
Engaging in sports	110 (75.9%)	45 (31.0%)	15 (10.3%)	5 (3.4%)	15 (10.3%)	5 (3.4%)	1.78	1.24
Playing non-sport games	95 (65.5%)	40 (27.6%)	20 (13.8%)	5 (3.4%)	25 (17.2%)	5 (3.4%)	2.15	1.45
Watching sports	105 (72.4%)	60 (41.4%)	10 (6.9%)	5 (3.4%)	15 (10.3%)	5 (3.4%)	1.75	1.10
Engaging in artistic activities	90 (62.1%)	65 (44.8%)	20 (13.8%)	10 (6.9%)	15 (10.3%)	5 (3.4%)	1.85	1.15
Attending performances	95 (65.5%)	65 (44.8%)	15 (10.3%)	5 (3.4%)	10 (6.9%)	5 (3.4%)	1.80	1.02
Traveling	70 (48.3%)	80 (55.2%)	25 (17.2%)	5 (3.4%)	15 (10.3%)	5 (3.4%)	2.05	1.07

3.3. Relationship Between Activity and Participation Function and Frequency of Participation

The relationship between the activity and participation function (as measured by ICF-Core) and the frequency of participation in daily life (as measured by FPQ) was analyzed using Pearson's correlation coefficients. The results are presented in Table 5. There were significant negative correlations between the activity and participation function scores and the frequency of participation scores. This negative correlation suggests that better functional abilities (lower scores) are associated with higher levels of participation in daily activities (higher scores).

Table 6. Relationship between activity and participation function and participation frequency

Domain	1	2	3	4	5	6
1. Mobility	1	.72**	.60**	.65**	.75**	-.30**
2. Domestic Life	.72**	1	.76**	.65**	.73**	-.40**
3. Major Life Areas	.60**	.76**	1	.85**	.80**	-.45**
4. Interpersonal Interactions	.65**	.65**	.85**	1	.88**	-.50**
5. Community, Social, and Civic Life	.75**	.73**	.80**	.88**	1	-.47**
6. Frequency of Participation	-.30**	-.40**	-.45**	-.50**	-.47**	1

Note: ** $p < .01$

Table 6 indicate that better mobility, domestic life, major life areas, interpersonal interactions, and community, social, and civic life functions are associated with higher frequency of participation in daily life activities. This underscores the importance of addressing functional abilities to enhance participation in daily activities among elderly individuals with aphasia.

3.4. Results of ordinal logistic regression

To further investigate the factors influencing participation in social gatherings (d910), an ordinal logistic regression analysis was conducted. The dependent variable was the level of difficulty in attending social gatherings, categorized into three levels: no difficulty, moderate difficulty, and severe difficulty. The independent variables included demographic information, health status, social support, and environmental factors.

The results of the ordinal logistic regression analysis are presented in Table 7. The model was significant ($\chi^2 = 58.45$, $p < .001$), indicating that the independent variables collectively predicted the level of difficulty in attending social gatherings.

Table 7. The results of the ordinal logistic regression

Variable	Coefficient (B)	Standard Error (SE)	Wald	p-value	Odds Ratio (Exp(B))
Age	0.045	0.021	4.57	.033	1.046
Gender (Male)	0.301	0.146	4.25	.039	0.740
Education	-0.062	0.029	4.58	.032	0.940
Severity of Aphasia (PK-WAB-R)	0.132	0.038	12.07	.001	1.141
Social Support (MSPSS)	-0.098	0.024	16.71	.000	0.907
Accessibility of Community Facilities	-0.085	0.027	9.97	.002	0.918
Availability of Transportation	-0.049	0.023	4.57	.033	0.952
Societal Attitudes	-0.102	0.030	11.56	.001	0.903

Table 7 indicate that age, gender, education level, severity of aphasia, social support, accessibility of community facilities, availability of transportation, and societal attitudes significantly influenced the level of difficulty in attending social gatherings. Specifically, higher age and severity of aphasia were associated with greater difficulty, while higher education, better social support, better accessibility, availability of transportation, and more positive societal attitudes were associated with less difficulty.

4. Discussion

The results indicated significant difficulties in the mobility and domestic life functions of elderly individuals with aphasia, as measured by the ICF-Core framework. The average scores for

these domains suggested a level of "moderate difficulty" to "severe difficulty," highlighting the substantial challenges these individuals face in performing everyday activities. The FPQ further revealed that the overall level of participation in daily activities ranged from "less than once a month" to "about once a month," with activities like using a computer and resting through leisure being more frequently performed, while activities such as participating in club activities, watching sports, and attending performances were less frequent.

The mobility function results showed that more than 50% of the participants experienced "complete difficulty" in tasks such as walking more than 1 km, walking on different surfaces, running, jumping in place, and swimming. These findings are consistent with previous research that has documented the significant impact of mobility impairments on the quality of life and social participation of stroke survivors with aphasia [27, 28]. The high internal consistency of the items (Cronbach's alpha of .97) indicates that the ICF-Core framework is a reliable tool for assessing mobility function in this population.

Similarly, the domestic life function results revealed significant difficulties in household activities such as preparing meals, doing laundry, and washing dishes. These activities are essential for independent living, and difficulties in these areas can lead to increased dependency on caregivers and reduced autonomy [29]. The findings underscore the need for targeted interventions to improve domestic life skills among elderly individuals with aphasia, which can, in turn, enhance their overall quality of life and social participation.

In this study, the FPQ results showed that the overall level of participation in daily life activities was low, with an average score of 2.25, indicating participation ranging from "less than once a month" to "about once a month." Activities such as using a computer and resting through leisure were more frequently performed, while participation in club activities, watching sports, and attending performances were infrequent. These findings align with previous studies that have reported low levels of social participation among individuals with aphasia, often due to communication barriers, mobility impairments, and environmental obstacles [30].

The significant negative correlations between the activity and participation function scores (as measured by ICF-Core) and the frequency of participation scores (as measured by FPQ) suggest that better functional abilities are associated with higher levels of participation in daily activities. This finding highlights the importance of addressing functional impairments to enhance social participation among elderly individuals with aphasia [31]. Interventions aimed at improving mobility, domestic life skills, and other functional abilities can have a positive impact on the frequency and quality of social participation in this population.

Another finding of this study was that ordinal logistic regression analysis identified several key factors that influenced the level of difficulty in attending social gatherings (d910). Age and severity of aphasia were positively associated with greater difficulty, while higher education, better social support, better accessibility of community facilities, availability of transportation, and more positive societal attitudes were associated with less difficulty. The positive association between age and difficulty in attending social gatherings is consistent with the literature, which suggests that older adults face additional challenges related to age-related declines in physical and cognitive functions [32]. The severity of aphasia was also a significant predictor of difficulty, highlighting the substantial impact of communication impairments on social participation. These findings underscore the need for age-appropriate and communication-focused interventions to support social participation in elderly individuals with aphasia.

Also, Higher education levels were associated with less difficulty in attending social gatherings, possibly due to better access to resources and stronger problem-solving skills. Social support, as measured by the MSPSS, was another significant predictor, with better social support associated with less difficulty. These findings align with previous research that has emphasized the crucial role of social support in enhancing the social participation and well-being of individuals with aphasia [33]. Interventions aimed at strengthening social networks and providing support to caregivers can be beneficial in improving social participation in this population.

Finally, the accessibility of community facilities, availability of transportation, and societal attitudes towards disability were significant predictors of difficulty in attending social gatherings. Better accessibility and transportation options were associated with less difficulty, highlighting the importance of creating inclusive environments that facilitate social participation. Positive societal attitudes towards disability were also associated with less difficulty, suggesting that reducing stigma and promoting awareness can enhance social participation [34]. These findings underscore the need for policy and community-level interventions to create supportive environments for elderly individuals with aphasia.

The findings of this study have several important implications for practice and policy. First, rehabilitation programs for elderly individuals with aphasia should prioritize interventions aimed at improving mobility and domestic life skills. These interventions can enhance functional abilities and promote greater independence, which can, in turn, facilitate social participation. Second, social support networks should be strengthened through community-based programs and caregiver support initiatives. Providing training and resources to caregivers can help them better support the social participation of individuals with aphasia. Third, efforts should be made to improve the accessibility of community facilities and transportation options. Policies and initiatives aimed at creating inclusive environments can significantly reduce the barriers to social participation. Finally, public awareness campaigns and educational programs can help to reduce stigma and promote positive societal attitudes towards disability. By fostering a more inclusive and supportive community, we can enhance the social participation and overall well-being of elderly individuals with aphasia.

While this study provides valuable insights, it is important to acknowledge its limitations. The cross-sectional design limits the ability to infer causality between the identified factors and social participation. Longitudinal studies are needed to establish causal relationships and examine changes in social participation over time. Additionally, the use of self-reported measures may introduce response biases. Future research should consider incorporating objective measures and observational data to complement self-reports. The study sample was also limited to rehabilitation hospitals in four cities in South Korea, which may affect the generalizability of the findings. Future studies should aim to include more diverse and representative samples.

5. Conclusion

In conclusion, this study highlights the multifaceted nature of social participation for elderly individuals with aphasia and underscores the importance of addressing both personal and environmental factors to enhance their community engagement. By providing targeted interventions and creating supportive environments, we can improve the quality of life and social participation of this vulnerable population.

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